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(54) PROSTHESIS MATERIAL FOR ORGANISM

(57) Abstract:

PURPOSE: To provide a novel prosthesis material for an organism in which a bone- inducing element is compounded, by making a part adjacent to osseous tissues porous and by impregnating the porous part with the bone-inducing element.

CONSTITUTION: A metal or ceramic material is prepared, which has a porous part adjacent to osseous tissues. The part is made porous by, for example, adding a blowing agent during the preparation of the material or by mixing an organic substance and then decomposing or subliminating the organic substance by heat treatment. A bone- inducing element may be dissolved in a collagen or another solution, or may be dispersed in a physiological salt solution or another. The metal or ceramic prosthesis material is soaked in the solution, and the porous part thereof is sufficiently impregnated with the element. The deaeration by evacuation will help the impregnation complete. The material is then freeze-dried; thereby the solvent of the solution is removed and the bone-inducing element is fixed in the porous part. For example, a porous layer 2 of apatite in the thickness of about 50μm is deposited on the surface of a core 1 of zirconia ceramics, and the porous layer 2 is impregnated with a bone-inducing element (a basic peptide, MW: about 22,000), which is extracted from Dunn osteosarcoma.

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